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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,077	10/21/2005	Kazuhiko Miyata	70404.75/ha	4480

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EXAMINER
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NGUYEN, HOA CAO

ART UNIT	PAPER NUMBER
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2841

NOTIFICATION DATE	DELIVERY MODE
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02/19/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JKEATING@KBIPLAW.COM  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/554,077	<b>Applicant(s)</b> MIYATA, KAZUHIKO	
	<b>Examiner</b> HOA C. NGUYEN	<b>Art Unit</b> 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) 18-21, 23 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-17, 22 and 25-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4pgs.</u>                                                     | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species:

Species 1: The structure shown in figures 1 and 2, drawn to a first embodiment of a sound generating display device.

Species 2: The structure shown in figures 8 and 9, drawn to a second embodiment of the sound generating display device.

Species 3: The structure shown in figure 11, drawn to a third embodiment of the sound generating display device.

Species 4: The structure shown in figure 13, drawn to a fourth embodiment of the sound generating display device.

Species 5: The structure shown in figures 15 and 16, drawn to a fifth embodiment of the sound generating display device.

Species 6: The structure shown in figure 21, drawn to a sixth embodiment of the sound generating display device.

The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, it seems claims 15-17 and 25-28 are generic.

There is all examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse.

Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record

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showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

2. During a telephone conversation with applicant's attorney, Stephen R. Funk, on 2/1/08 a provisional election was made without traverse to prosecute the invention of Species 2, claim 15-17, 22 and 25-28. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-21 and 23-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Drawings***

3. Figure 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15, 17, 22 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakanishi et al. (US 20030197813, hereafter Nakanishi).

**Regarding claim 15**, as shown in figure 6, Yamada discloses a display device, comprising:

(a) a display element 43 (LCD, par.54) having a display function; and

(b) a functional element 41 (TTP, par.54) having a function different from that of the display element, wherein:

(c) the functional element 41 is laminated on the display element so as to be confined in a planar area of the display element 43, and

(d) the display element 43 includes a thin film substrate 44 (control circuit board, par.54) provided with a circuit element of a display section (par.54), the thin film substrate 44 having provided directly thereon (i) inherently a circuit block of a display system which circuit block processes an externally inputted video signal so as to drive the display section, and (ii) inherently a circuit block of a separate system, which circuit block processes a signal regarding the functional element 41 (see par.55), and

(e) the circuit block of the separate system inherently receives and sends the signal through a flexible printed circuit board 47/48 (flexible wiring board, par.54) which is connected to the thin film substrate 44 and which enables connection to an external device (no number, see the connections between wiring board 47/48 and board 44 shown in figure 6).

Examiner Remarks: It is noted that the limitations regarding the logical function of the board 44 (the above circuit blocks and its functions) are interpreted to only require the ability to so perform. In the case of product claim, only the structure of the claim distinguishes over the prior art.

**Regarding claim 17**, Nakanishi inherently discloses the printed circuit board 48 for connecting the display element 43 to the external device inputs the video signal into the display element.

**Regarding claim 22**, Nakanishi discloses the functional element 41 is a touch panel (TTP, par.54) which is disposed on a side of a display surface of the display element 43 and which outputs a signal corresponding to an input position of an operator (see par.55).

**Regarding claim 27**, Nakanishi discloses the display element 43 performs display by using a liquid crystal (liquid crystal display, par.1).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi in view of Kato (20030011735).

**Regarding claim 16**, as shown in figure 6, Nakanishi discloses the circuit block of the separate system on the display element 43, and the functional element 41 to be laminated on the display element, are connected through (i) a first printed circuit board 48, which is the printed circuit board for connecting the display element to the external device, and (ii) a second flexible printed circuit board 47 having a first end of which is connected to the functional element 41.

But, Nakanishi fails to disclose the second end the flexible printed circuit board 47 is connected to a middle portion of the first printed circuit board 48.

Kato, as shown in figures 1B and 5, discloses a display device 1 (par.36) comprises a first printed circuit board 22 (FPC 22, par.25) and a second flexible printed circuit board 12 (FPC, par.36) having a first end of which is connected to a functional element 13 (thermistor, par.23) and a second end 12b (terminal, par.23) of which is connected to a middle portion of the first printed circuit board 22.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the flexible printed circuit board 47 and 48 of Nakanishi so that the second end of the flexible printed circuit board 47 is connected to a middle portion of the first printed circuit board 48, as suggested by Kato, in order to save space on the control circuit board 42, since such arrangement requires only one connector instead of two connectors on the board 44.



8. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi.

**Regarding claim 25**, Nakanishi disclose the thin film substrate 44 inherently has a thin film layer, but fails to disclose the thin film includes a polycrystalline silicon thin film.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a polycrystalline silicon thin film in order to conveniently form electrodes, since polycrystalline silicon is known to be useful in forming electrodes in transistor. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

**Regarding claim 26**, Nakanishi discloses the thin film substrate 44 inherently has a thin film layer, but fails to disclose the thin film layer including a continuous grain boundary silicon thin film.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a continuous grain boundary silicon thin film in order to increase the peeling strength of the film. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

9. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi in view of Park et al. (US 20030020401, hereafter Park).

Nakanishi does not disclose the display element performs display by using an EL layer.

Park discloses in paragraph 5 that EL display device provides a wide viewing angle, a clearer moving picture, a high durability, and a high temperature resistance.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the display element of Nakanishi to perform display by using an EL layer in order to provide a wide viewing angle, a clearer moving picture, a high durability, and a high temperature resistance as suggested by Park.

***Citation of Relevant Art***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Bitzakidis et al. (US 5798740) disclose a liquid crystal display in which data values are adjusted for cross-talk using other data values in the same column.

Kawamori (US 5598178) discloses a liquid crystal display.

Kurumisawa (US 20030016508) discloses a capacitor sheet, electro-optical device with capacitor, flexible substrate, composite build-up substrate, and electronic apparatus.

Ishida et al. (US 20020033911) disclose a liquid crystal display apparatus and manufacturing method therefor.

Bodony et al. (US 6307751) disclose a flexible circuit assembly.

Mai (US 20040090584) disclose an assembly structure for flat panel display device.

Imamura et al. (US 20020164475) disclose a Silicon nitride powder, silicon nitride sintered body, sintered silicon nitride substrate, and circuit board and thermoelectric module comprising such sintered silicon nitride substrate.

**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOA C. NGUYEN whose telephone number is (571)272-8293. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Diego Gutierrez/  
Supervisory Patent Examiner, Art Unit 2831

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Hoa C. Nguyen  
2/7/08

